

Amendments to the Specification:

Please replace the paragraph at page 4, lines 13-17, with the following amended paragraph:

The invention also provides a method for ~~immunising~~ immunizing an animal which comprises administering a pharmaceutically effective amount of a vaccine composition of the invention to an animal sufficient to elicit an immune response in the animal.

Please replace the paragraph at page 10, line 29 to page 11, line 18 with the following amended paragraph:

Suitable adjuvants include, but are not limited to, aluminium hydroxide, alum, QS-21 (U. S. Pat. No 5,057,540), DHEA (U.S. Pats. Nos. 5,407,684 and 5,077,284) and its derivatives (including salts) and precursors (e. g., DHEA-S), beta-2 microglobulin (WO 91/16924), muramyl dipeptides, muramyl tripeptides (U. S. Pat. No. 5,171,568), monophosphoryl lipid A (U. S. Pat. No. 4,436,728; WO 92/16231) and its derivatives (e. g., ~~Detox~~TM DETOXTM), and BCG (U.S. Pat. No. 4,726,947). Other suitable adjuvants include aluminium salts, squalene mixtures (SAF-1), muramyl peptide, saponin derivatives, mycobacterium wall preparations, mycolic acid derivatives, non-ionic block copolymer surfactants, ~~Quil-A~~ QUIL ATM (Quil A Saponin), cholera toxin B sub-unit, polyphosphazene and derivatives, and immunostimulating complexes (ISCOMs) such as those described by Takahashi et al. (1990) Nature 344: 873-875. The choice of an adjuvant will depend in part on the stability of the vaccine in the presence of the adjuvant, the route of administration, and the regulatory acceptability of the adjuvant, particularly when intended for human use. For instance, alum is approved by the United States Food and Drug Administration (FDA) for use as an adjuvant in humans.

Please replace the paragraph at page 12, lines 7-17, with the following amended paragraph:

The vaccines of the invention may contain any suitable concentration of the induced procaryotic cells. We prefer that the cells are administered at doses in the range of 10-600 µg, preferably 10-100 p. g, most preferably 25 µg, per Kg of body weight of the animal being treated. It will be appreciated that the vaccine of the invention may be applied as an initial treatment followed by one or more subsequent treatments at the same or a different dosage rate at an interval of from 1 to 26 weeks between each treatment to provide prolonged ~~immunisation~~ immunization against the pathogen.

Please replace the paragraph at page 14, line 12, with the following amended paragraph:

E. coli and Salmonella typhimurium cells were induced to synthesise trehalose as in Examples 1 and 2 and were used to ~~immunise~~ immunize mice and rabbits. Titration of the bacteria showed that a 100 to 1000 fold lower titre of bacteria induced for trehalose synthesis was required to produce an equivalent antibody response in the animals compared to the use of non-induced bacteria. Dried preparations were generally 2-50 fold more effective on a cell number basis at eliciting protective immunity in the ~~immunised~~ immunized animals than non-dried preparations.

Please replace the paragraph at page 15, lines 12-20, with the following amended paragraph:

Bacterial cells induced to synthesise trehalose as described above were killed by repeated freeze-thaw cycles and used to ~~immunise~~ immunize rabbits. Antibody titres in the ~~immunised~~ immunized animals were assayed by 10-fold serial dilutions using a dot-blot assay on total cell lysates prepared as described for trehalose analysis above. Animals vaccinated with induced bacteria showed a 10 to 100 fold higher antibody titre than those ~~immunised~~ immunized with non-induced bacteria.